

DOUBLE DIPLOMA ON COMMUNICATIONS ELECTRONIC ENGINEERING (B.ENG) AND TELEMATICS ENGINEERING (B.ENG.) (CODE 59ET)

ACADEMIC YEAR 2021-2022

FIRST YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595300001	LINEAR ALGEBRA	6	Elem	1 st	D540
595300003	CIRCUITS ANALYSIS I	6	Elem	1 st	D250
595300002	CALCULUS I	6	Elem	1 st	D540
595300005	INTRODUCTION TO TELECOMMUNICATIONS	3	Comp	1 st	D250
595300004	PROGRAMMING I	6	Elem	1 st	D230
595300000	INTRODUCTORY WORKSHOP ON ENGINEERING	3	Comp	1 st	D250
595300007	CIRCUITS ANALYSIS II	6	Elem	1 st and 2 nd	D250
595300009	CALCULUS II	6	Elem	2 nd	D540
595300006	PROFESSIONAL COMMUNICATION SKILLS	3	Comp	2 nd	D240
595300008	ELECTRONICS I	6	Elem	1 st and 2 nd	D230
595300010	PROGRAMMING II	6	Elem	1 st and 2 nd	D230
595300011	SEARCH TECHNIQUES AND INFORMATION SYSTEMS	3	Comp	2 nd	D230

SECOND YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595300012	ELECTROMAGNETISM AND WAVES	6	Elem	1 st and 2 nd	D510
595300014	ELECTRONICS II	6	Comp	1 st and 2 nd	D230
595300013	STATISTICS AND STOCHASTIC PROCESSES	6	Elem	1 st and 2 nd	D540
595300015	TELECOMMUNICATIONS NETWORKS AND SERVICES	6	Comp	1 st and 2 nd	D230
595300016	SIGNALS AND SYSTEMS	6	Comp	1 st and 2 nd	D250
595300017	SCIENCE, TECHNOLOGY AND SOCIETY	3	Comp	1 st and 2 nd	D230
595300020	MICROPROCESSORS	6	Comp	1 st and 2 nd	D230
595300023	ANALOG ELECTRONICS I	6	Comp	2 nd	D230
595300018	WAVE PROPAGATION	4.5	Comp	1 st and 2 nd	D510
595300222	ADVANCED APPLICATION PROGRAMMING	6	Comp	2 nd	D230
595300019	COMPUTER NETWORKS	4.5	Comp	2 nd	D230

THIRD YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595300027	DIGITAL DESIGN I	4.5	Comp	1st	D230
595300024	ECONOMICS AND BUSINESS MANAGEMENT	4.5	Comp	1 st	D400
595300025	DIGITAL SIGNAL PROCESSING	4.5	Comp	1 st and 2 nd	D250
595300227	SIGNALLING AND SWITCHING	6	Comp	1st	D230
595300228	TRANSMISSION SYSTEMS	6	Comp	1st	D230
595300026	OPERATING SYSTEMS	4.5	Comp	1 st	D230
595300032	ANALOG ELECTRONICS II	6	Comp	2nd	D230
595300232	INFORMATION PROCESSING IN TELEMATIC APPLICATIONS	4.5	Comp	2nd	D230
595300231	ADVANCED NETWORKS AND SERVICES	6	Comp	2nd	D230
595300021	COMMUNICATION THEORY	6	Comp	1 st and 2 nd	D250
595300033	PRODUCTION TECHNOLOGIES OF ELECTRONICS SYSTEMS	4.5	Comp	2 nd	0910
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	3	Elec	2 ^o	

FORTH YEAR

CODE	COURSES	ECTS	TYPE	SEMESTER	DEPARTMENT CODE
595300226	MODELLING LANGUAGES	4.5	Comp	1st	D230
595300035	ELECTRONIC INSTRUMENTATION	6	Comp	1st	D230
595300030	AUDIOVISUAL SYSTEMS	4.5	Comp	1 st	D250
595300028	MICROPROCESSOR-BASED SYSTEMS	6	Comp	1st	D230
595300036	ELECTRONIC POWER SYSTEMS	4.5	Comp	1st	D230
595300235	COMMUNICATIONS SOFTWARE	4.5	Comp	1st	D230
595300031	DIGITAL DESIGN II	6	Comp	2 nd	D230
595300037	PROJECT MANAGEMENT	4.5	Comp	2 nd	D400
595300038	ELECTRONIC SYSTEMS ENGINEERING	4.5	Comp	2nd	D230
595300230	NETWORKS AND SERVICES SECURITY	6	Comp	2nd	D230
595300237	ADVANCED TELEMATIC APPLICATIONS	4.5	Comp	2nd	D230
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	4.5	Elec	1 ^o	

FIFTH YEAR

CÓDIGO	ASIGNATURAS	ECTS	TIPO	PERIODO	COD. DPTO.
595300034	ENGLISH FOR PROFESSIONAL AND ACADEMIC COMMUNICATION (*)	6	Comp	1 st and 2 nd	D240
595300029	CONTROL SYSTEMS	6	Comp	1st	D230
595300234	MOBILE COMMUNICATIONS NETWORKS	6	Comp	1st	D230
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	12	Elec	1 ^o	
595300040	FINAL DEGREE PROJECT (**)	12	Comp	1st and 2nd	ALL
595300240	FINAL DEGREE PROJECT (**)	12	Comp	1st and 2nd	ALL
	ELECTIVE SUBJECTS/INTERNSHIP CREDITS	6	Elec	2 ^o	

(*) A B2 English certificate is required for the enrolment.

TYPE OF COURSES:

- "Elem" – Elementary.
- "Comp" – Compulsory.
- "Elec" – Elective.

ELECTIVE COURSES

TYPE	SPEC	SEMESTER	CODE	COURSES	ECTS	REQUIREMENTS	DEPT. CODE	
A	EC	1 st	595310044	PRODUCT ENGINEERING	4.5	--	D510	
			595310048	HARDWARE FOR INTERNET OF THINGS (IoT)	4.5	028	D230	
			595310049	PROGRAMMING IN LABVIEW	4.5	--	D510/ D230	
			TL	595310247	APPLICATIONS DESIGN USING RASPBERRY PI	4.5	--	D230
				595310248	INTERACTION SYSTEMS FOR SOCIAL ROBOTICS	4.5	222	D230
				595310251	DIGITAL FORENSIC ANALYSIS IN INFORMATION SYSTEMS	4.5	--	D230
	EC	2 nd	595310041	INDUSTRIAL AUTOMATION	4.5	--	D230	
			595310047	EMBEDDED SYSTEMS DESIGN WITH RASPBERRY PI	4.5	--	D230	
		TL	595310242	NETWORK AND SYSTEM ADMINISTRATION	4.5	--	D230	
			595310243	MOBILE APPLICATIONS DEVELOPMENT	4.5	222/232	D230	
		EC	595310046	POWER ELECTRONICS	4.5	--	D230	
			595310042	PHOTOVOLTAIC ENGINEERING	4.5	--	D510	
		TL	595310250	DRONE FUNDAMENTALS AND APPLICATIONS	4.5	--	D230	
			595310252	INTRODUCTION TO ARTIFICIAL INTELLIGENT IN THE CLOUD	4.5	--	D230	
B	SC	1 st	595320327	WAVE TRANSMISSION AND PROPAGATION	6	018	D250	
			595320328	COMMUNICATIONS ELECTRONICS I	6	20322/023	D250	
		2 nd	595320322	ANALOG ELECTRONICS	6	008/014	D250	
			595320331	COMMUNICATIONS ELECTRONICS II	6	20328	D250	
	SO	1 st	595320126	AUDIO ENGINEERING I	4,5	20122	D250	
			595320128	IMAGE AND VIDEO TECHNOLOGIES	6	20122	D250	
		2 nd	595320122	SOUND AND IMAGES FUNDAMENTALS	6	--	D250	
			595320131	AUDIO ENGINEERING II	6	20122/ 20126	D250	
C		1 st	595330060	RENEWABLE ENERGY	3	--	D510	
			595330061	SMART HOME	3	015	D230	
			595330062	TELECOMUNNICATION COMMON INFRASTRUCTURES	3	--	D250	
			595330064	AIMING AT B2 IN ENGLISH	3	--	D240	
			595330066	INTRODUCTION TO MACHINE LEARNING	3	--	D230	
		2 nd	595330065	WOMEN IN SCIENCE AND TECHNOLOGY	3	--	D510	
			595330070	MANAGEMENT OF TECHNOLOGICAL INNOVATION	3	--	D230	
			595330072	DISCRETE MATHEMATICS	3	--	D540	
			595330073	DYNAMICAL SYSTEMS	3	001/002/009	D540	
			595330074	CIS TO DEFENCE	3	--	D250	
PE		1 st and 2 nd	595330075	P1 INTERNSHIP CREDITS	3	*		
			595330076	P2 INTERNSHIP CREDITS	4.5	*		
			595330077	P3 INTERNSHIP CREDITS	6	*		
			595330078	P4 INTERNSHIP CREDITS	9	*		
			595330079	P5 INTERNSHIP CREDITS	12	*		

ELECTIVE COURSES

- Each student must pass at least 25.5 elective ECTS to complete the double degree.

TYPES OF ELECTIVE COURSES

Each academic year, the School Board will establish the range of optional courses.

A Type - Elective courses to strengthen the specialty.

B Type - Elective courses to strengthen other specialties.

C Type - Elective courses for the four degrees.

PE - Internship credits.

ADMISSION REQUIREMENTS FOR ELECTIVE COURSES

To enroll on an elective course, every student must have taken or passed the course(s) shown in the **REQUIREMENTS** box.

SPEC.:

EC: Electronics for Communications.

SC: Telecommunications Systems.

SO: Image and Sound.

TL: Telematics.

DEPARTMENT CODES

D230: Telematics and Electronic Engineering.

D240: Linguistics Applied to Science and Technology.

D250: Audiovisual and Communications Engineering

D400: Organization Engineering, Business Management and Statistics.

D510: Physical Electronics, Electrical Engineering and Applied Physics.

D540: Mathematics Applied to Information and Communication Technologies.